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With international search report.

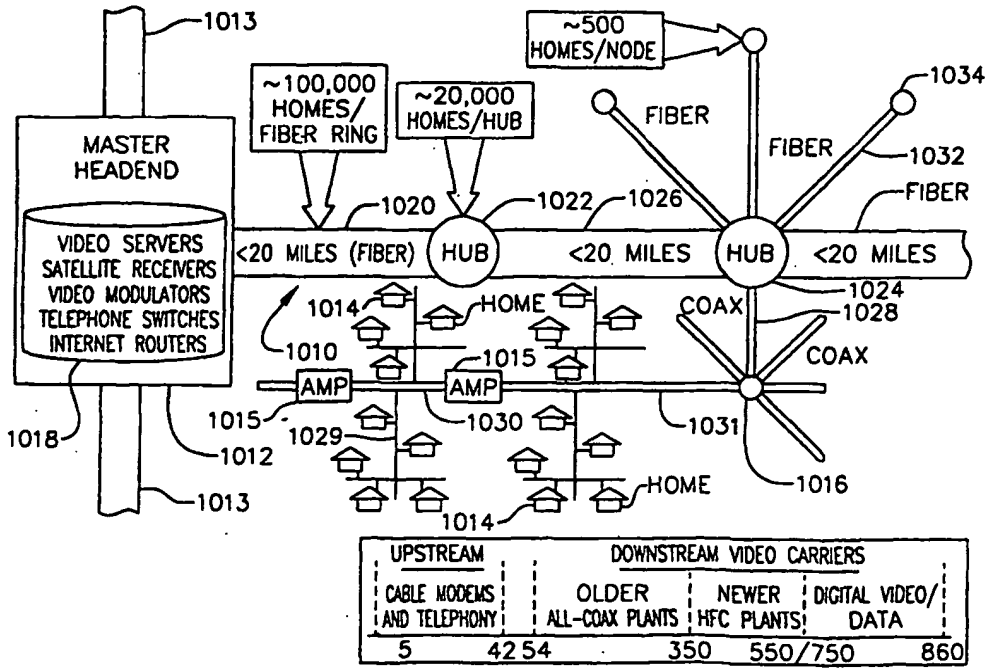
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(88) Date of publication of the international search report:
23 November 2000 (23.11.00)

(54) Title: CABLE MODEM SYSTEM

(57) Abstract

A method for communicating information includes allocating a time slot in a time division multiple access system for a transmission from a subscriber to a headend which is sufficient for only a first portion of a transmission. A second portion of the transmission is transmitted in other than the first time slot. Synchronization of a clock of the subscriber is enhanced with respect to a clock of the headend using a message transmitted from the headend to the subscriber which is indicative of an error in a subscriber transmission time with respect to the time slot. A feedback loop process is used to determine at least one of fractional symbol timing correction and carrier phase correction of a transmission from the subscriber to the headend. Quality of at least one channel is monitored and modulation is changed in response to changes in monitored channel quality. Information representative of parameters of received time division multiple access data is used to facilitate processing of the received time division multiple access data in a receiver. Filter coefficients are generated at the headend from a ranging signal which was transmitted from a subscriber to the headend and the filter coefficients are transmitted from the headend to the subscriber, where the filter coefficients are then used to compensate for noise in a transmission from the subscriber to the headend.



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INTERNATIONAL SEARCH REPORT

Im .tional Application No
PCT/US 99/25675

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04L12/28 H04N7/173 H04L1/00 H04B1/10 H04L25/03
H04J3/05

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04L H04N H04J H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, INSPEC, PAJ

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A	page 106, left-hand column, paragraph 3 -page 107, left-hand column, paragraph 1 page 108, left-hand column, paragraph 1 page 108, right-hand column, paragraph 3; figures 1,4-7,9	1,3

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

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Date of the actual completion of the international search	Date of mailing of the international search report
3 October 2000	09. 10. 2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Pieper, T

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Int tional Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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In. .tional Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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Im tional Application No
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 99/25675

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1,4-6

   A method for communicating information allocating time slots in a TDMA system from a subsriber to a headend TDMA packet receiver with timing a carrier phase correction by feedback loop processes

2. Claim : 2

   A method for communicating information in a cable modem system comparing the granted bandwidth and the requested bandwidth and fragmenting the data to be transmitted

3. Claim : 3

   A method for synchronizing the clock frequency in a cable modem

4. Claim : 7

   A method for adjusting a notch filter in the headend of a cable modem system

INTERNATIONAL SEARCH REPORT

Information on patent family members

In ational Application No
PCT/US 99/25675

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